synthetic apparatus. As to the part played by chlorophyll, the various familiar possibilities remain; if concerned in the synthesis as such of carbohydrates, it presumably affects the later stages of the process rather than the initial ones.

In support of these conceptions, attention is called, among others, to the following well-established facts: (1) In the majority of plants, at any rate, chlorophyll itself is a product of photosynthesis formed with the aid of light by a "photosynthetic substance" present in the plastid. (2) Although iron is not present in chlorophyll, chlorosis follows an insufficient supply of iron, and can be readily cured by the application of iron salts. (3) Numerous attempts notwithstanding, it has not been possible thus far to bring about to any considerable extent a synthesis of carbon dioxide and water with the aid of chlorophyll separated from plastids (chlorophyll solutions, films, etc.).

Even if we view with reserve the report that salts of iron in the presence of light bring about *in vitro* a synthesis of carbon dioxide and water into formaldehyde, the conceptions here developed by Moore go far towards illuminating the interesting relation between iron and chlorophyll.

W. M.

PROCEEDINGS OF THE CLUB

October 13, 1914

The meeting for October 13, 1914, was held at the American Museum of Natural History at 8:15 P.M. In the absence of other officers the Secretary presided.

This being announced as an "Experience" meeting, informal reports on various subjects were in order.

Mr. Clifford Farr reported having found what purports to be a hybrid *Artemisia* in Ohio during the summer.

Dr. Jean Broadhurst spoke of self pruning of several sorts of trees and exhibited specimens of elm branches to illustrate this phenomenon.

Prof. T. E. Hazen gave a short account of his collecting trip on Mount Washington, N. H.

Dr. G. Clyde Fisher exhibited specimens of *Amelanchier* from the New England States and Dr. B. O. Dodge spoke of collecting some fifty species of rusts and several species of Discomycetes at Algoma, Wis.

Adjournment followed. B. O. Dodge,
Secretary

October 28, 1914

The second regular meeting of the Club for October was held October 28, 1914, in the morphology laboratory of the New York Botanical Garden at 3:30 P.M. with President Harper presiding. Twenty persons were present.

The minutes of the meeting of May 27 were read and approved.

Mrs. Britton, chairman of the program committee, reported that programs for the meetings of the year were being arranged and that complete programs would be presented in the near future.

James G. Scott, 123 W. Price St., Germantown, Pa. and William H. Long, Bureau of Plant Industry, Washington, D.C., were elected to membership.

The first paper on the announced scientific program on "The Genus *Oxymitra* (*Tesellina*) in the United States" was presented by Dr. Marshall A. Howe. All of the genera of Ricciaceous Hepaticae with the exception of *Oxymitra* have long been recognized as having representatives in the United States, and the finding of a species of *Oxymitra* by Dr. M. S. Young at Austin, Texas, now completes the generic representation of this family in North America. The genus as hitherto known has been generally held to consist of a single species, long considered to be confined to the Mediterranean region of Europe and Africa, though more recently reported also from Paraguay and Brazil. The Texan plant exhibits characters which seem to justify its specific segregation from the plant of the Old World. A description of the proposed new species, and a discussion of the history and synonymy of the genus are published in the numbers of The Bryologist for September and November, 1914.

Miss Margaret Slosson presented a paper on "An Interesting *Notholaena* from Cuba." This fern was collected by Prof. J. F.

Kemp near Woodfred, Oriente, Cuba, and is related to *Notholaena trichomanoides* but differs in the structure of the trichomes. This new species will be described and named for Prof. Kemp unless a report of its recent discovery by some one else proves to be correct.

Dr. W. A. Murrill exhibited a number of specimens of *Cryptoporus volvatus* (Peck) Hubbard from different parts of the country and spoke briefly on the morphology of this unique species, which he proposed to place in a distinct tribe, the Volvatae, characterized by the presence of a volva. The apertures in the volva are claimed by some to be natural openings and by others to be due to punctures by small weevils. The sporophore is annual and matures very early, so that the volva would probably decay and liberate the spores in sufficient time even if no apertures were present.

Dr. F. J. Seaver then spoke briefly on "Certain Species of Discomycetes." The recent discovery of two new species of the genus *Ascobolus* by Dr. Seaver in the vicinity of New York City would seem to emphasize the need of a more extended investigation of the local fungus flora. The spores of one of the plants, to be described later, vary from globose to blunt-elliptical, indicating a close relationship to a *Boudiera*.

Dr. A. B. Stout, who has recently returned from Europe, spoke of the successful cultivation of liverworts at the Hamburg Gardens.

Two recent publications on Marine Algae of the Danish West Indies by Dr. Boörgesen were briefly reviewed by Dr. Marshall A. Howe.

Dr. P. A. Murphy, of Dublin University, who has been for some time past engaged in a cytological study of *Phytophthora* gave a highly interesting account of the oospore formation in this genus. A full report of his discoveries will appear in the Annals of Botany.

The order of business was then reopened under the head of nomination. Dr. Michael Levine presented the following names: Miss E. Grace Stewart, 457 West 123d St.; M. A. Raines, 764 East 161st St.; and R. C. Faulwetter, Columbia University, New York City.

Adjournment followed.

B. O. Dodge,
Secretary